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ABSTRACT

The widespread adoption of the Computers and Information Technology in every field has opened up immense possibilities for using Information Technology in an unethical manner. Cases of hacking, software piracy etc. have become major concerns. However the IS literature is somewhat limited on this. Specifically, the factors leading to such behavior have not been generically studied in detail. The paper aims to fill this gap and tries to develop a model of unethical IT usage based on the underlying framework of the Theory of Reasoned Action (TRA). Drawing from research in IS, psychology, ethics and a little of Transaction Cost Economics, it adapts the TRA to the IS context and posits individual, social and technological factors as important in understanding unethical IT usage. This paper, currently research in progress, develops the model and includes propositions that can be developed into testable hypotheses for empirical work.

Keywords

Unethical IT usage, Ethical philosophy, Net Gain, Deindividuation.

INTRODUCTION

In today's information age, the world is progressing as a whole towards a large-scale adoption of Information Technology (henceforth IT). One concern that has arisen is the unethical usage of such technology. Problems such as software piracy, hacking, spoofing and plagiarism are all instances of such unethical usage. The unethical usage of IT is pervasive and seems to be growing as rapidly as the technology itself (Phukan and Dhillon 2001). Moores and Dhillon (2000) mention that such unethical behavior is prevalent across countries. Research has also shown that individuals knowingly indulge in the unethical usage of IT (Phukan and Dhillon 2001).

Surprisingly, for such a serious concern, there is a dearth of related studies in the IS literature. Studies also took an "instantiation" approach (e.g. software piracy) and considered a narrower set of influencing factors. Some ethical decision making models exist in other literatures (Hunt and Vitell 1986); however, they relate more to understanding the dilemma regarding the ethicality of an issue, something which is not our focus.

This paper aims to address this gap in IS literature by proposing a broader, generic and coherent model of the factors involved in the unethical use of information technology expressed as a behavior. The model is discussed at an individual level, i.e. tries to understand an individual's unethical IT usage (henceforth UITU).

THEORETICAL FRAMEWORK

The Theory of Reasoned Action

The theoretical framework used by this paper is that of the Theory of Reasoned Action or TRA (Fishbein and Ajzen 1975). TRA posits that attitudes and social norms influence intentions and that intentions influence behavior. Empirically, the predictive ability of the theory has been found to hold across conditions (Sheppard, Hartwick and Warshaw 1988). Christensen and Eining (1991) successfully applied the TRA to study software piracy, a typical case of UITU. Since UITU is ultimately a behavioral outcome, the TRA becomes a powerful guiding framework in its understanding. Our paper expands on this framework and tries to understand the factors that affect each of the factors in the basic TRA framework. This paper brings in technology; individual ethical philosophy and net gain factors within this framework.

Unethical IT Usage (UITU)

An act, in general is defined to be unethical when "one party, in pursuit of its goals, engages in a behavior that is harmful to the abilities for other parties to pursue their goals" (Kuo and Hsu 2001). Mason (1986) defined *privacy*, *accuracy*, *property* and *access* (henceforth PAPA) as four ethical issues of the information age. In line with this, *unethical usage of IT is defined as the violation of privacy, property, accuracy and access (PAPA) of any individual, group or organization by any other individual, group or organization*. This paper considers the violator to be an individual. It should be noted that the commonly known forms of UITU such as software piracy, hacking, spoofing etc. all fall within the scope of this definition.

Construct and Model Development

Adapting the TRA to our context, the constructs and propositions in the model are discussed next. The overall model is represented in Figure 1.

Attitude towards Unethical IT Usage

Fishbein and Ajzen (1975) define attitude (towards an act) as the degree to which a person is favorable or unfavorable about the act. In our case, attitude towards UITU is defined as the degree of favorableness towards the violation of PAPA for any other individual, group or organization.

Intention of Unethical IT Usage

The intention towards UITU is defined as the individual's intent or wishes to violate PAPA for any other individual, group or organization. There are factors that affect intention other than attitude. The final formation of ethical intention would be influenced by all of these factors.

Social norms (SN)

Kuo and Hsu (2001) define social norms (SN) as "desire to conform to others: confirm what others do, do what others do". SN refers to the social evaluation of the behavior by the individual. While it may be argued that social norms influence attitude to an extent, the paper proposes that attitudes are primarily predispositions (Zimbardo 1969) that are relatively constant. In comparison, SN varies by the reference group and represents the situational aspect of the behavior. It might be argued that the larger context (e.g. culture) of an individual can be a key antecedent to both SN and attitude (because it influences both the individual and people perceived to be important to the individual). However, such influence of culture is a complex process that has been kept out of the model here for reasons of parsimony.

Deindividuation

Deindividuation is defined as a feeling of being estranged from others, leading to behavior violating appropriate norms (Zimbardo 1969). During deindividuation, one loses the awareness for others, feels more anonymous and has less inhibition for socially unacceptable acts (Sproull and Kiesler 1991). This implies a "social" breakdown in the case of deindividuation. Thus, a deindividuated person would not feel as much pressure to comply with SN as a non-deindividuated person.

Though studies have shown that deindividuation occurs when individuals interact with computers (Lea and Spears 1991), Moon and Nass (1998) mention that computers can be perceived as social actors and that this would depend on their perceived similarities/differences with computers. If computers were perceived to be social actors, deindividuation would be minimal. Thus, deindividuation would negatively affect the impact of social norms (having a positive connotation) on intention of UITU; however, deindividuation itself is positively influenced by the individual's perceived similarities to computers.

***P1*. Perceived SN should negatively influence behavioral intention towards UITU; however the influence would be negatively moderated by the level of deindividuation induced by interacting with the computer; deindividuation would in itself be positively influenced by the perceived similarity of the individual to the computer.**

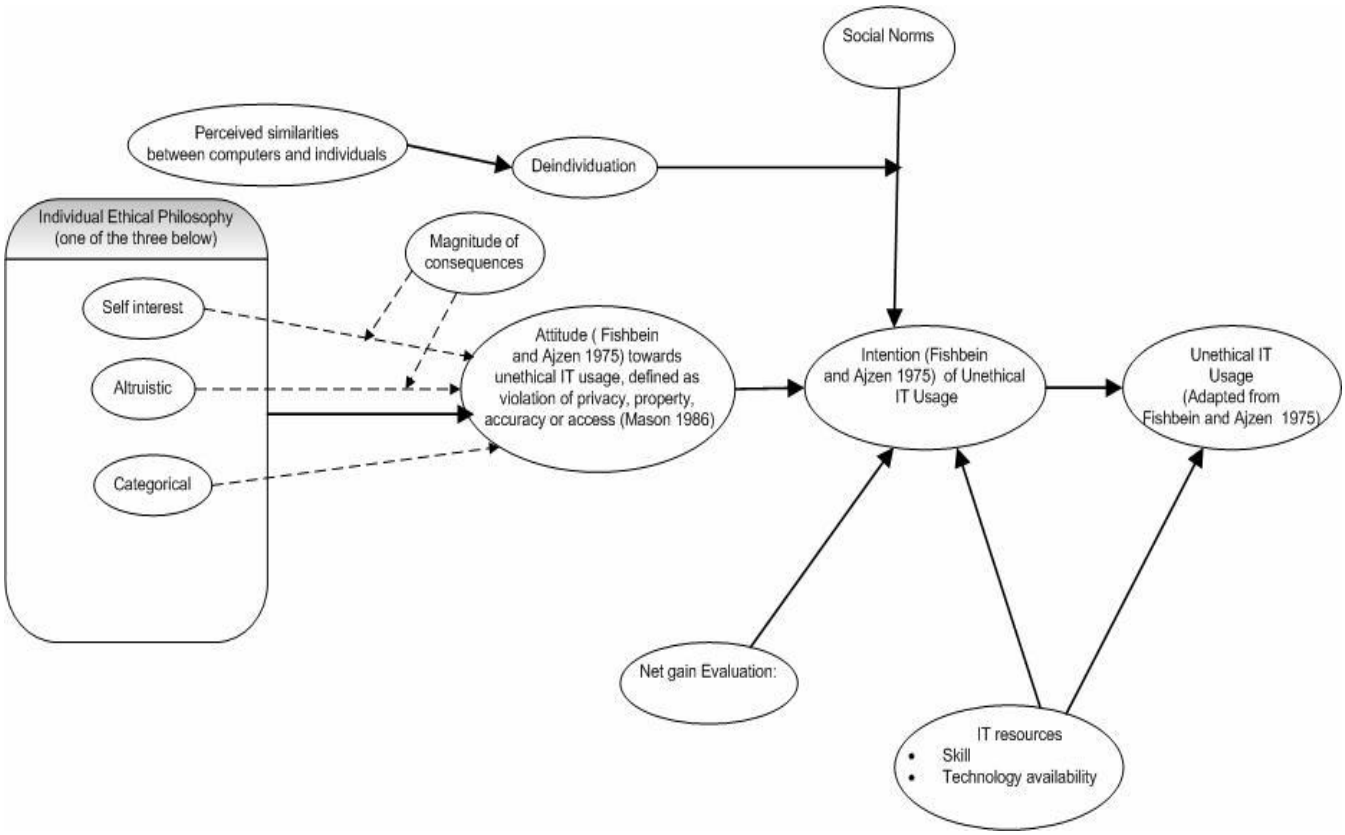

Figure 1. A model of Unethical Usage of IT

Ethical Philosophy

In line with the TRA, we posit that attitude towards UITU is influenced by the general ethical philosophy or ethical belief of the individual. Individual acceptability of any act stems from personal beliefs about acceptability. These beliefs determine our degree of favorableness towards the act.

Ethics has two broad views: the consequentialist and the categorical schools. The consequentialist school views that the rightness (or wrongness) of an action is determined by how much consequential benefit (or loss) comes out of the action. This paper considers non-hedonistic benefit considerations of Moore's (1903/1993) ideal utilitarianism within the consequentialist school. This is because the paper limits itself to the understanding of individuals achieving physical gains (typically monetary) by committing UITU, in the process restricting others from achieving their own physical gains.

The categorical school of thought views that rightness or wrongness of a behavior is guided by certain rules in place, the classic example being Kant's (1804/1981) categorical imperatives: "the categorical imperative would be one, which represented an action as objectively necessary in itself, without reference to another end". Any such objectively necessary action would represent a rule and it is the individual's duty to follow the rule. For example, it is objectively necessary to speak the truth and hence that it would be "unethical" to lie even to help somebody.

An individual might subscribe to the consequentialist or categorical view above. However, within the consequentialist view, they could be either self-interest based (benefits for self only) or altruistic (benefits for others).

The acceptability of an act follows from these three perspectives. UITU has the increasing possibility of causing harm to the victim. A generally altruistic individual would find such behavior unacceptable even if it promoted benefits for self. On the other hand, a predominantly self-interest based person would find such promotion of self-interest acceptable. Individuals who hold the categorical view would not be favorable towards UITU because UITU involves violation (from the definition of UITU) and thus goes against the norm.

Thus, both altruistic and categorical individuals would have significantly different degrees of favorableness towards UITU as compared to the self-interested individuals.

However, literature has also considered the magnitude of consequences (negative) as an important factor in ethical decision-making (Jones 1991). The paper proposes that such magnitude should affect the attitude towards the act (within the consequentialist view). Thus, if the consequences were very trivial, then even an altruistic individual would find a degree of favorableness towards UITU. On the other hand, if the consequences were immense, even a self-interested individual would develop lower favorableness towards UITU even if that served self-interest.

P2a. **Individuals with a predominantly self-interest view of ethics would have significantly higher attitudes towards UITU as compared to individuals with a predominantly altruistic or categorical view of ethics.**

P2b. **The influence of both the self-interest and altruistic individuals on their attitude towards UITU would be moderated by the magnitude of the perceived consequences (negative) of the act.**

This is reflected in Figure 1. Ethical philosophy (altruistic or self-interest or categorical) would influence attitude towards UITU. When the ethical philosophy is altruistic or self-interest based, the influence on attitude towards UITU would be moderated by the perceived magnitude of consequences of the UITU.

Net gain Evaluation

Net gain evaluation (NGE) is defined as the individual's perceived net gain (or loss) for self as an outcome of the action undertaken. From Williamson's (1975) view of opportunism, UITU is a case of opportunism or "self interest seeking with guile". If there were a perceived net gain, it would positively influence the individual's intention to carry out an act of UITU.

P3. **Net gain evaluation will positively influence the intention towards UITU.**

IT Resources

IT resources signify the perceived behavioral control or PBC (defined as the perceived ease of performing the behavior). Perceived behavioral control was later added to the TRA to factor in the control involved in carrying out a behavior and influences both intentions and behavior. Empirically, PBC of software piracy (a typical case of UITU) has been shown to positively influence intentions of software piracy (Peace et al., 2003). Taylor and Todd (1995) decomposed PBC into resource and technological facilitation. Within our context, IT resource facilitation provides the PBC to carry out UITU.
IT resources can be thought to comprise of both Technology availability (defined as the technological resources at an individual's disposal) and IT Skill, defined as knowledge and familiarity of computers (Loch and Conger 1996) and relevant technologies.

The argument presented is that resources provide capabilities and opportunities (together signifying the "control") for such unethical acts and thus should positively influence the individual's intention for the act and also the actual carrying out of the act.

P4. **The level of IT resources will positively influence behavioral intention and behavior of UITU.**

CONTRIBUTION, LIMITATION AND IMPLICATIONS

This paper synthesizes studies from a diverse set of literature and provides an integrative view of the factors involved in understanding the important concern of UITU. The paper builds on the strong theoretical foundation of the TRA. The comprehensiveness of the model is reflected by the inclusion of three dimensions: individual, technological and social.

The model is a first step towards a greater understanding of the factors involving UITU. Though it is discussed at an individual level, it can be adapted to the case of group behaviors (e.g. a team of hackers) of UITU by factoring in the group dynamics.

For academic implications, this paper conceptualizes interrelationships of variables in order to develop an integrative theory of unethical behavior within the IT context. The important next step would be to empirically validate this model. This is in fact the next objective of this research. Since the model builds on TRA the constructs could be operationalized by drawing from previous research and adapting them to the IT context. Also, the development of this theory would provide food for thought for future researchers to develop alternate theories of UITU.

A limitation of the paper is inherent because of the use of the TRA model where intent is used to predict actual behavior. Due to random factors not included in the model, this might not be the case always. Another limitation is the exclusion of demographic variables that might make a difference. However, they have not been considered for parsimony issues.

The practical implications of this paper are important. In providing a model of unethical behavior, this paper strives to make the authorities aware of the factors that lead to an unethical usage of IT. An understanding of the factors could help enforcement of guidelines and well-developed codes of conduct for ethical IT usage.

A NOTE ON THE EMPIRICAL TEST OF THE MODEL

The next step is to test the model. It is difficult to track UITU behavior due to social desirability effects and that is why intention would be used as a proxy for such behavior (Peace et al., 2003). Empirical studies have shown that intentions can be used to strongly predict future behavior (Peace et al., 2003). During empirical testing, specific instantiations of UITU (e.g. hacking) would be used. Thus the dependent variable in the empirical model would be something like "hacking intention". From existing literature, Peace et al., (2003) developed measures of software piracy intention. This study would adapt a similar approach. However, to reduce the social desirability bias, the proposed study would present scenarios of such UITU and ask the subjects to respond to questions on an individual in that scenario (instead of directly asking them about their intentions).

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REFERENCES

1. Christensen, A.L. and Eining, M.M. (1991). Factors Influencing Software Piracy: Implications for Accountants. Journal of Information Systems 5(1).

2. Fishbein, M., and Ajzen, I. (1975). Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research. Addison-Wesley, Reading, MA.

3. Hunt, S. D. and Scott, J.V. (1986). A General Theory of Marketing Ethics. Journal of Macromarketing 6.

4. Jones, T. (1991). Ethical Decision Making by Individuals in Organizations. Academy of Management Review 16(2).

5. Kant, I. (1804/1981). Grounding for the Metaphysics For Morals. Hackett Publishing Company, Indianapolis, IN.

6. Kuo, F. and Hsu, M. (2001). Development and Validation of Ethical Computer Self-Efficacy Measure: The Case of Softlifting. Journal of Business Ethics 32(4).

7. Lea, M. and Spears R. (1991). Computer-Mediated Communication, De-Individuation And Group Decision-Making. International Journal Of Man-Machine Studies 34.

8. Loch, K.D. and Conger S. (1996). Evaluating Ethical Decision Making and Computer use. Communications of the ACM 39(7).

9. Mason, R.O. (1986) Four Ethical Issues of the Information Age, MIS Quarterly 10(1).

10. Moon, Y. and Nass, C. (1998). Are computers scapegoats? Attributions of responsibility in human-computer interaction. International Journal of Human-Computer Interaction 49(1).

11. Moore, G.E. (1903/1993). Principia Ethica. Cambridge University Press, U.K.

12. Peace, A., Galletta. D. and Thong, J. (2003). Software Piracy in the Workplace: A Model and Empirical Test. JMIS 20(1).

13. Phukan, S. and Dhillon, G. (2001). Ethical and intellectual property concerns in a multicultural global economy. Electronic Journal of Information Systems in Developing Countries 7(3).

14. Sheppard, B.H., Hartwick, J. and Warshaw, P.R. (1988). The Theory of Reasoned Action: A Meta-Analysis of Past Research with Recommendations for Modifications and Future Research. Journal of Consumer Research, 15.

15. Sproull, L. and Kiesler, S. (1991). Connections: New ways of working in the networked organization. MIT Press, Cambridge, MA.

16. Taylor, S. and Todd, P.A. (1995). Understanding Information Technology Usage: A Test of Competing Models. Information Systems Research 6(2).

17. Williamson, O.E. (1975). Markets and Hierarchies: Analyses and Antitrust Implications. The Free Press, New York

18. Zimbardo, P. G. (1969). The human choice: Individuation, reason, and order vs. deindividuation, impulse and chaos, in W. J. Arnold and D. Levine (Eds.), Nebraska Symposium on Motivation (Vol. 17). Lincoln, NE, USA, University of Nebraska Press.